

REMARKS

Applicant is in receipt of the Office Action mailed September 30, 2004. Applicant confirms election of Species I, as characterized by the Examiner, with traverse, and thus claims 21-41, 48-52, and 59-63, referred to as Group II, are provisionally withdrawn. Reasons for the traversal are provided below. Claims 2, 3, 43, and 54 have been cancelled. Claims 1, 4-20, 44, 45, 53, and 55-58 have been amended. New claims 64-71 have been added. Claims 1, 4-20, 42-47, 53-58 and 64-71, referred to as Group I, remain pending in the case. Reconsideration of the present case is earnestly requested in light of the following remarks.

Allowable Subject Matter

The Office Action objected to claims 45 and 47 as being dependent upon a rejected base claim, but indicated that these claims would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Applicant appreciates the allowable subject matter, and has added new independent claims 64-71 based on this allowable subject matter. Specifically, claim 64 includes the limitations of claims 42, 44, and 45, and claim 65 includes the limitations of claims 42 and 47. Claims 66 and 67 claim methods with similar limitations as claims 64 and 65, respectively. Claims 68 and 70, and claims 69 and 71 claim systems with similar limitations as claims 64 and 65, respectively.

Election/Restriction

A Restriction was asserted by the Examiner by telephone in a conversation with Jeffrey C. Hood on September 22, 2004, in which a provisional election was made with traverse to prosecute the invention of Species I, represented by claims 1-20, 42-47, and 53-58 (Group I). This provisional election of Species I is hereby confirmed, although Applicant believes the restriction to be improper, as argued below. Applicant also respectfully submits that the Examiner's decision to make the Restriction Final is improper since this is the first Office Action Response in the case, and is thus the first opportunity Applicant has had to traverse the Restriction.

Applicants note that according to MPEP 803:

“Under the statute an application may properly be required to be restricted to one of two or more claimed inventions only if they are able to support separate patents and they are either independent or distinct.

If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions.”

and

“There are two criteria for a proper requirement for restriction between patentably distinct inventions:

- (A) The inventions must be independent or distinct as claimed; and
- (B) There must be a serious burden on the examiner if restriction is required.”

Applicant submits that a search related to the subject matter of Group I would also cover the claims 21-41, 48-52, and 59-63 of Group II and so would not constitute an undue burden. In other words, Applicant submits that separate searches would not be required for Group I and II. Thus, Applicant submits that the separation of Group I and II into separate and distinct species is unnecessary, and that claims 21-41, 48-52, and 59-63 should be included in Group I.

Additionally, Applicant respectfully submits that the various alleged species characterized by the Examiner are not in fact proper species. The Examiner’s restriction requirement is improper because the alleged species enumerated by the Examiner are not disclosed as species in the present application. By definition, species must have mutually exclusive characteristics. According to M.P.E.P. § 806.04(f):

The general test as to when claims are restricted, respectively, to different species is that fact that one claim recites limitations which under the disclosure are found in a first species but not in a second, while a second

claim recites limitations disclosed only for the second species and not the first. This is frequently expressed by saying that claims to be restricted to different species must recite the mutually exclusive characteristics of such species. (emphasis added).

Note that “mutually exclusive characteristics” is a requirement of the species *as described in the disclosure*. “Mutually exclusive characteristics” does not mean that one claim recites a limitation not expressly recited in another claim.

The two alleged species enumerated by the Examiner are not described in the specification as having mutually exclusive characteristics. In other words, nothing in the specification indicates that the various embodiments described may not be used in conjunction or are otherwise mutually exclusive. For example, Applicant submits that nothing in the specification precludes the alleged species represented by claim 21 as characterized by the Examiner being used in conjunction with or as part of the alleged species represented by claim 1 as characterized by the Examiner. In other words, nothing in the description of the alleged species indicates that the features and limitations of either claim are mutually exclusive of the features and limitations of the other. For example, nowhere does the Specification indicate that the “first criteria” of claim 1 cannot comprise several different criteria, or that the first subset of pixels cannot comprise multiple different subsets of pixels. Nor does the disclosure indicate that the “second subset of pixels”, the “second test”, and the “second criteria” of claim 21 cannot be used in conjunction with the “first subset of pixels”, the “first test”, and the “first criteria” of claim 1. As another example, Applicant notes that claim 41 may be considered to be a more detailed version of claim 1.

Thus, for at least the reasons provided above, Applicant respectfully submits that the Restriction is improper. Applicant respectfully requests withdrawal of the Restriction Requirement.

Oath/Declaration

Applicant is in the process of procuring a Supplemental Declaration with corrected citizenship for Ram Rajagopal, and will provide the Supplemental Declaration upon receipt from the Inventor.

Section 101 Rejection

Claims 53-58 were rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter, specifically, as being directed to two different statutory classes. Applicant has amended claims 53-58 accordingly, and respectfully requests removal of the 101 rejection of these claims.

Section 112 Rejections

Claims 2-20 were rejected under 35 U.S.C. 112 for antecedent basis errors. Claims 2 and 3 have been cancelled, and so their rejections are rendered moot. Claims 4-20 have been amended accordingly to correct these errors. Applicant respectfully requests removal of the 112 rejection of these claims.

Section 103 Rejections

Claims 1-7, 10-17, 20, 42-44, 46, 53-55, and 57 were rejected under 35 U.S.C. 103 as being unpatentable over Meyer, et al. (5,081,689, “Meyer”) in view of Roth (5,617,491, “Roth”). Applicant respectfully disagrees. Claims 2, 3, 43, and 54 have been cancelled, and so their rejections are rendered moot.

As the Examiner is certainly aware, to establish a *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP 2143.03. Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion or incentive to do so. *In re Bond*, 910 F. 2d 81, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990).

Moreover, as held by the U.S. Court of Appeals for the Federal Circuit in *Ecolochem Inc. v. Southern California Edison Co.*, an obviousness claim that lacks evidence of a suggestion or motivation for one of skill in the art to combine prior art references to produce the claimed invention is defective as hindsight analysis.

In addition, the showing of a suggestion, teaching, or motivation to combine prior teachings “must be clear and particular . . . Broad conclusory statements regarding the

teaching of multiple references, standing alone, are not ‘evidence’.” *In re Dembicza*k, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). The art must fairly teach or suggest to one to make the specific combination as claimed. That one achieves an improved result by making such a combination is no more than hindsight without an initial suggestion to make the combination.

Applicant submits that neither Meyer nor Roth provides a motivation to combine, and that even were Meyer and Roth properly combinable, which Applicant argues they are not, the resulting combination would still not teach Applicant’s invention as claimed. Applicant submits that the motivation provided by the Examiner, specifically, “to enable the system of Meyer [to] create the curve using pixels that are arranged in random fashion”, is simply citing an improved result based on hindsight, and is thus improper.

Applicant further submits that there are numerous features and limitations not taught or suggested by Meyer and Ross. For example, nowhere does Roth (or Meyer) teach or suggest testing the generated curve against a subset of the plurality of pixels, where the subset is less than all the plurality of pixels. Rather, Applicant respectfully submits that Roth tests *all* the pixels in a plurality of pixels.

As Ross states: “The final example shows the algorithm applied to situations where the outliers are not noise, but instead, make up *another geometric primitive*.” (col. 8, lines 63-65), and “By simply applying the extraction process on the remaining outliers, the second geometric primitive could be extracted. The extraction process can thus be used to find a number of geometric primitives by such an iterative approach.” (col. 8, line 63-col. 9 line 3)

Applicant submits that the “remaining” outliers referred to in the cited portion of Roth are simply those points which were processed and tested during the first extraction process and which were determined to be outliers with respect to the first extracted geometric primitive. In other words, these points are those remaining after the first extraction process has determined the first geometric primitive, and has further determined which points are ‘inliers’ and which are ‘outliers’, where the ‘inliers’ are associated with the first primitive, and where the remaining points are the ‘outliers’, which are not associated with the first primitive (which determination certainly requires

processing and testing). As Roth describes, these outliers are then processed and tested *a second time* to determine if yet another geometric primitive may ‘fit’ these remaining data. In other words, each time the extraction process is performed, the determined outliers may then serve as the next input data set to be processed and tested in a subsequent extraction process. Applicant thus notes that in Roth’s system, for each application of the extraction process, *all* of the input data points (pixels) are processed and divided into inliers and outliers, and that the determined outliers of each application of the extraction process form the input data set for the next application of the extraction process. Thus, for example, the outliers for a third application of the extraction process will have been processed and tested three times. Nowhere does Roth teach or describe applying the extraction process by processing only a subset of the input data for the process. Applicant notes that otherwise, Roth could not categorize the inliers and the outliers:

Along with an equation of the best primitive, an extraction method determines which subset of the geometric data points belong to the primitive (the inliers) and ignores the rest (the outliers). The output of the primitive extraction process is the equation of the best primitive, along with a division of the input points into inliers and outliers. (Roth col 5, lines 45-51) (*emphasis added*)

In contrast, Applicant’s invention as currently recited in pertinent part by claim 1 includes “. . . testing the curve against a first subset of the plurality of pixels, wherein the first subset is less than all of the plurality of pixels, wherein said testing produces first test results. . .” Applicant notes that this novel feature of Applicant’s invention is a primary mechanism for the method’s improved efficiency, in that the testing portion of the method (which involves computing distances and is thus computationally intensive per point), is greatly reduced with respect to the exhaustive case by only processing a subset of the points. Applicant respectfully submits that neither Roth nor Meyer teach, suggest, or provide motivation for this feature. In fact, in Roth’s system, these distance computations are made for *each* point in the input set, and is thus quite computationally demanding. Therefore, Applicant respectfully submits that, at least for the reason

presented, claim 1 is patentably distinguished and non-obvious over Roth and Meyer, both singly or in combination. Accordingly, Applicant respectfully submits that claim 1 and those dependent thereon are allowable.

Claims 42 and 53 include limitations similar to claim 1, and so the arguments presented above apply with equal force to these claims as well. Applicant respectfully submits that for at least the reason or reasons presented above, claims 42 and 53, and those claims respectively dependent thereon, are patentably distinguished and non-obvious over Roth and Meyer, both singly and in combination, and are thus allowable.

Removal of the §103 rejection of claims 1, 4-7, 10-17, 20, 42, 44, 46, 53, 55, and 57 is respectfully requested.

Applicant also asserts that numerous ones of the dependent claims recite further distinctions over the cited art. However, since the independent claims have been shown to be patentably distinct, a further discussion of the dependent claims is not necessary at this time.

CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 50-1505/5150-55800/JCH.

Also enclosed herewith are the following items:

- Return Receipt Postcard
- Request for Approval of Drawing Changes
- Notice of Change of Address
- Check in the amount of \$ for fees ().
- Other:

Respectfully submitted,



Jeffrey C. Hood
Reg. No. 35,198
ATTORNEY FOR APPLICANT(S)

Meyertons, Hood, Kivlin, Kowert & Goetzel PC
P.O. Box 398
Austin, TX 78767-0398
Phone: (512) 853-8800
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